



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

BOTANICAL GAZETTE.

VOL. VIII.

DECEMBER, 1883.

No. 12.

Additions and Corrections to the List of Native Trees of the Lower Wabash.¹

BY ROBERT RIDGWAY.

Page 50. For No. 8, *Prunus* "Virginia" read *P. Americana*.

Page 53. To the list of 52 species add *Fraxinus quadrangulata* and *Carya microcarpa*, discovered subsequently on the same tract. During a second enumeration made in October, 1882, and restricted to 22 acres of the same piece of woods, 44 species were counted, notwithstanding the fact that 8 acres had been wholly deprived of the underwood and most of the larger trees, while the best timber had been culled from the whole of it. This allows two distinct species of trees for each separate acre of the entire tract. With the consent of the owner of the land, whose intention was to clear the whole piece, selected specimens of all the species were marked for preservation.

Page 57. To the "List of trees attaining a height of 100 feet or more," add, *Quercus Michauxii* (119 feet), *Carya porcina* (115 feet), and *C. microcarpa* (134 feet).

Page 62. *Acer rubrum*. A felled specimen near Wheatland measured 92 feet in length, 31 feet to first limb, and 3 feet in diameter at $3\frac{1}{2}$ feet from the ground; a standing tree in the same locality was $11\frac{1}{2}$ feet in circumference, at $1\frac{1}{2}$ feet, but at 8 feet from the ground divided into two upright forks.

Page 67. *Liquidambar Styraciflua*. Three additional felled trees of this species measured as follows:—*u.* Total length 96 feet, clear trunk 52, circumference 7; *v.* 108, $57\frac{1}{2}$, 8; *w.* 121, 70, 9. The last was felled expressly for measurement.

Page 68. The Tupelo Gum (*Nyssa uniflora*) was omitted. It is abundant in the cypress swamps of Johnson, Pulaski, and

¹ Notes on the Native Trees of the Lower Wabash and White river valleys in Illinois and Indiana. Proc. U. S. Nat. Mus., 1882, pp. 49–88.

Massac counties, Illinois (see Geological Survey of Illinois, vol. i, pp. 408, 411, 430 and 431), and very likely occurs in similar situations near the mouth of the Wabash.

Page 69. *Fraxinus Americana*. Eight slender trees of this species, recently cut for timber in the bottoms of a small creek flowing into the northern end of Monteur's pond, near Wheatland, were measured in the spring of 1883. Their dimensions were as follows:

| Diameter across top of stump. | Height of stump. | Trunk to first limb. | Total length. | No. of annual rings. |
|-------------------------------|------------------|----------------------|---------------|----------------------|
| 2.50 | 3.00 | 65.00 | 108.00 | Hollow in center. |
| 2.25 | 2.50 | 59.50 | 106.50 | 145. |
| 2.33 | 2.50 | 47.00 | 105.50 | 162. |
| 2.25 | 3.00 | 42.00 | 101.00 | 168. |
| 2.00 | 2.00 | 31.00 | 100.00 | 141. |
| 2.85 | 2.00 | 62.00 | 111.00 | 139. |
| 2.20 | 2.00 | 58.00 | 106.00 | |
| 3.20 | 3.50 | 55.00 | 127.00 | 233. |
| Average 2.45 | 2.56 | 52.47 | 108.12 | 165. |

Page 70. *Catalpa speciosa*. October 29th, 1882, a magnificent *Catalpa* tree attracted my attention by reason of the marked contrast between its richly green foliage and the decided brown and red tints of the adjacent tree tops. Had it not been thus conspicuous it would probably have escaped notice altogether, although standing not far from the roadside. Careful measurements were made with a tape line, with the following result:

| | |
|---|----------------|
| Girth at 1 foot from ground..... | 18 feet. |
| " " 4 feet " " | 12½ " |
| " " 10 " " " | 10 " 9 inches. |
| First limb, 1 foot in diameter, growing out at 14 feet from ground. | |
| Second " " " 30 " " " | |
| Height (determined by several triangulations)..... | 101½ feet. |
| Greatest spread of branches..... | 35 and 55 " |

Several sprouts or "suckers" had been cut from the base for fence posts.

This tree was again visited May 31, 1883, when it was in full bloom, and clothed with its showy blossoms from the lowest branch to the extreme summit.

The locality was near Turkey Creek, about four miles south of Olney (Richland county), Illinois. A very careful search through the surrounding woods, especially in the bottoms of Turkey Creek, near by, failed to reveal a single additional specimen, of any size whatsoever—so nearly has the species been exterminated in that locality.

Page 70. *Sassafras officinale*. A very fine tree of this species which had been felled in the cypress swamp near White River,

measured 2 feet in diameter across top of stump, and 30 feet to the first limb. The top was measured to 82 feet from the base, but the smaller branches had all been destroyed. The trunk was unusually short, considering the size of the tree, and had been made into fence-posts.

Page 70. *Ulmus alata*. Very abundant in bottoms of streams in southern portion of Richland county, Illinois, but no large trees noticed. It grew mostly in company with the Mississippi Hackberry and the usual assemblage of bottom-land trees, the *Catalpa speciosa* having once been abundant, but now quite exterminated in some places and not common anywhere.

Page 77. *Carya alba*. A small specimen measuring only 1 foot 10 inches in diameter at 3 feet from the ground was 96 feet long and 60 feet to the first limb.

Page 77. *Carya microcarpa*. "Heavy, damp soil; scarce. Has very little loose bark, one of our smallest hickories." (SCHNECK.) A specimen growing in Gibson county, Indiana, was 134 feet high, the trunk 70 feet clear and 9 feet 10 inches in circumference at 3 feet from the ground. Another was 14 feet in girth and considerably over 100 feet high. The latter grew on the bank of Greathouse creek, in Wabash county, Illinois, near the town of Mount Carmel.

Page 78. *Carya porcina*. A specimen growing on my father's farm, near Wheatland, measured $7\frac{1}{2}$ feet circumference at 3 feet from the ground, and was about 115 feet high. Another growing two or three hundred yards from the specimen of *C. microcarpa*, the measurements of which are given under the head of that species, in Gibson county, was $10\frac{1}{2}$ feet in girth, the top spreading 99 feet, and the total height not far from 140 feet.

Page 78. *Quercus alba*. A remarkably fine white oak growing in the edge of the bottoms on the "Steen" tract, near Wheatland, Indiana, was not less than 130 feet high, while, by actual measurement, the top expanded 121 feet, the respective extremities elevated not less than 100 feet; the trunk measured 15 feet in circumference, at 3 feet from the ground, and was not less than 40 feet "in the clear."

A white oak tree, standing alongside the Grayville road, about five miles from Mount Carmel, measures $17\frac{1}{2}$ feet in circumference, but the base was somewhat swollen.

Page 80. *Quercus coccinea*. A small tree, recently cut near the edge of Monteur's pond, two miles west of Wheatland, Indiana, was 120 feet long, 30 feet to first small limb, and 2 feet 9 inches in diameter across top of stump, at 3 feet from the ground.

Page 80. *Quercus lyrata*. The largest tree measured stood near the town of Mount Carmel (almost within the corporation), and was $8\frac{1}{2}$ feet in circumference. The height was estimated at between 90 and 100 feet.

Page 81. *Quercus macrocarpa*. A felled tree, in bottoms just above Coffee Creek (Wabash county, Illinois), measured in October, 1882, was 139 feet long, the trunk 87 feet clear, the diameter across top of stump (at $5\frac{1}{2}$ feet from ground) being 4 feet, and only 1 foot less at end of last cut!

Page 81. *Quercus Michauxii*. In the spring of 1883, I found this species very abundant, in fact, the prevailing "white" oak in certain portions of the bottom lands near Wheatland, Indiana. On a tract not exceeding 10 acres in extent, 16 trees, including apparently all of this species growing in that particular locality, were measured, with the following result. Being, with a single exception, all standing trees, it was necessary to estimate the height and length of the trunk:

| Circum. at 3 ft from ground. | Length of trunk. | Height. | Spread of top. |
|------------------------------|------------------|---------|----------------|
| 12 | 40 ? | +100 | 81 |
| 14.50 | 40 ? | +100 | ..... |
| 12.50 | 55 ? | +100 | 83 |
| 13 | 29 * | 119 | ..... |
| 10.50 | 50 ? | ..... | ..... |
| 14 | 40 ? | +100 | 96 |
| 11.50 | 30 ? | ..... | ..... |
| 12 | 50 | ..... | ..... |
| 10.75 | 50 ? | ..... | ..... |
| 14 | 40 ? | ..... | ..... |
| 10.50 | 45 ? | ..... | ..... |
| 9 | 50 ? | ..... | ..... |
| 12.75 | 35 ? | ..... | ..... |
| 10.25 | 40 ? | ..... | ..... |
| 10 | 45 ? | ..... | ..... |
| 12 | 55 ? | ..... | ..... |

Average, 11.83, or nearly 4 feet in diameter.

The general character and appearance of this tree are those of both *Q. Muhlenbergi* and *Q. bicolor*. It is most like the former in foliage (which, however, is much more coriaceous, darker in color, and more velvety beneath), but is more like the latter in form, being one of the most robust of all the oaks, while *Q. Muhlenbergi* is decidedly the most slender of the white oak group. In the character of its bark, it is like other species, exceedingly variable, some specimens agreeing exactly in this respect with *Q. Muhlenbergi* while others could not be distinguished from *Q.*

bicolor. I have observed, however, that there is no *certain* rule by which the different species of the white oak section may be invariably distinguished from one another. It is true that each has a more or less characteristic bark in a majority of cases, but individuals of each, perfectly typical so far as fruit and foliage are concerned, are not unfrequently met with, which, if the bark were the only guide, would be unhesitatingly referred to one or another of the other species.

Page 83. *Quercus palustris*. According to Dr. Schneck (BOTANICAL GAZETTE, June, 1883, pp. 242-3), there exists, "within three miles of Mount Carmel," a tree of this species "which commences with two roots," but so close together at the surface of the ground as to appear as one. "The two bodies, however, start separately and are several inches apart for nearly 10 feet, when they unite and form a single trunk, making in all a tree nearly 70 feet high. The two trunks, where they are separate, are about 6 inches in diameter, round, straight, and appear to be solid and perfect."

Page 83. *Quercus rubra*. The largest red oak in North America is said to be in Louisiana, 18 miles from Natchitoches, on the road to Opelousas. It stands in the midst of a rich bottom, on the Bayou St. Barb. Two feet from the ground its circumference is 44 feet, and at six feet it is 32 feet around. The trunk is perfectly sound and 50 to 60 feet to the first limb. (I unfortunately neglected to record the reference to the above information).

What Bartram, in his "Travels through North and South Carolina, Georgia, East and West Florida," etc. (1791), mentions under the name "*Quercus tinctoria*" seems to be this species, rather than the black oak. His remarks are as follows: "To keep within the bounds of truth and reality in describing the magnitude and grandeur of these trees, would, I fear, fail of credibility, yet I think I can assert that many of the black oaks measured 8, 9, 10 and 11 feet in diameter, 5 feet above the ground, as we measured several that were above 30 feet girt, and from hence they ascend perfectly straight, with a slight taper, 40 or 50 feet to the limbs, but below five or six feet these trunks would measure a third more in circumference, on account of the projecting jambs or supports."

Page 83. *Quercus phellos*. In Professor Worthen's "Geology of Illinois," vol. I, p. 433, I read as follows: "North of Brooklyn, Schuyler county, I observed numerous willow oaks (*Q. phellos*), a tree which I have seen nowhere else in Illinois. Part of these woods are open, free of undergrowth, and the ground

nearly bare of grass, others have a dense undergrowth of the same trees."

Page 84. *Castanea vulgaris Americana*. In second paragraph for *March* read *May*.

Page 85. *Fagus ferruginea*. A felled tree, with decayed top, measured $84\frac{1}{2}$ feet in length, $32\frac{1}{2}$ feet to the first limb, and 2 feet 8 inches in diameter across top of stump, $3\frac{1}{2}$ feet from ground.

In Southern Indiana, along the line of the Louisville & St. Louis Air Line R. R., are extensive forests where magnificent beeches are among the largest and most abundant trees. In these apparently virgin woods, where this species evidently reaches its finest development, much larger and taller specimens than those I have measured undoubtedly occur.

In my supposition that the beech does not grow on the Illinois side of the river, in Wabash county, Ill., I was mistaken. I have since been shown a fair-sized tree on the bank of Coffee Creek, by Dr. Schneck, who knows of the existence of several others in the same locality.

Page 86. *Populus heterophylla*. In the spring of 1883, an excellent opportunity was afforded the writer for ascertaining the average size attained by this species in a particular locality along the northwestern edge of Monteur's pond, in Knox county, Ind. A considerable number of the larger trees had been cut during the winter, apparently when the pond (here quite shallow) was frozen over. At the time of my visit, in the latter half of April, these felled trees were in *full blossom*, so that the height could be measured very exactly. Only five trees were measured, my time being too limited for further investigations. Following are the measurements taken :

| Diameter acr's top of stump. | Trunk. | Total length. | |
|---------------------------------|--------|---------------|-------|
| 1.50 | 48 | 72 | |
| 1.65 | 57 | 76 | |
| 1.25 | 38 | 75.50 | |
| 1.65 | 53.50 | 78 | |
| 2 * | 28.50 | 77 | |
| Average. | 1.61 | 45 | 75.70 |

Page 87. For *Populus "tremuloides"* read *grandidentata*. While *tremuloides* may occur, it is quite certain that all the aspens that I have seen are *P. grandidentata*.

Page 87. *Taxodium distichum*. It may interest the readers of

* Diameter at $3\frac{1}{2}$ feet from ground.

the BOTANICAL GAZETTE to know that the largest tree of this species on record grows near the village of Santa Maria del Tule, in the State of Oaxaca, Mexico. The trunk is 118 feet in circumference, or considerably greater than the largest of the California Sequoias, but the height is said to be only 120 feet, or decidedly less than the tallest specimens of this species growing in Indiana. [NOTE.—I find in three different accounts of this tree some marked discrepancies as to the dimensions stated. Thus, in Humboldt's "Travels" the girth is given as 118 feet; an article in Frank Leslie's "Popular Monthly" (vol. v., March, 1878, p. 354) gives the girth as 117 feet 10 inches, while another in the "Popular Science Monthly" makes the following statement: "When Humboldt saw it, in 1851, it measured 42 feet in diameter, 146 feet in circumference, and 282 feet between the extremities of the two opposite branches."]

Page 88. *Pinus mitis*. The interrogation mark should be removed from this species, which has since been ascertained to be the one growing on the hills of Southern Illinois. I have no information respecting the size of this tree as growing in the region referred to, but the following clipping from the *Shenandoah Valley* refers to what is evidently regarded as an unusually large specimen for that portion of Virginia:

"Mr. Samuel Olinger, residing near Quicksburg, Va., a short time ago cut and had sawed into lumber a yellow pine tree, which, we think, is entitled to the appellation of the 'King of the Forest'. The result was 2,420 feet of lumber, inch measure. He took 91 feet in length from the tree, and the last cut squared 15 inches. It is thought, had the saw been large enough to cut through the first cuts without hewing them down, the result would have been at least 3,000 feet of inch lumber; the saw cutting only 21½ inches, much had to be hewed off of the logs."

In conclusion, I would like to request those who are interested in the subject to make measurements of large or full grown trees whenever opportunity offers. The woods are fast disappearing, and even in the remnants the finest trees are constantly being culled. There are several species of which we have no satisfactory measurements, and to these attention is particularly directed. They are the following: *Magnolia acuminata*, *Tilia heterophylla*, *Æsculus glabra*, *Æ. flava*, *Negundo aceroides*, *Rhus typhina*, *Robinia pseudacacia*, *Prunus Americana*, *P. serotina*, *Pirus angustifolia*, *P. coronaria*, *Crataegus* (all the species except *subvillosa*), *Amelanchier Canadensis*, *Aralia spinosa*, *Viburnum Lentago*, *V. prunifolium*, *V. dentatum*, *Fraxinus pubescens*, *F. viridis*, *F. sambucifolia*, *Ulmus alata*, *U. fulva*, *Celtis Mississippiensis*, *Carya sulcata*, *Quercus bicolor*, *Q. coccinea*, *Q. falcata*, *Q. lyrata*, *Q. Michauxii*, *Q. nigra*, *Q. phellos*, *Q. stellata*, *Castanea Ameri-*

cana, *Fagus ferruginea*, *Ostrya Virginica*, *Betula leuta*, *B. nigra*, *Salix lucida*, *S. discolor*, *Juniperus Virginiana* and *Pinus mitis*.

There still exists in the southern part of Indiana (especially in Pike, Dubois and Crawford counties) considerable actually "virgin" forest, in which probably the largest trees now growing in the State are to be found. During a recent trip through this country, over the line of the Louisville & St. Louis Air-Line R. R., I was much impressed with the magnificent growth of beech and other trees, growing densely as possible, and apparently untouched by the ax for miles along the railroad. Saw mills were already established in places, so the work of destruction has begun, and will doubtless continue as long as the material lasts.

Notes on Edible Plants. III.

BY E. LEWIS STURTEVANT.

ANONACEÆ.

This order contains a number of edible and often aromatic plants, and some are in esteem in their native countries, even to the European palate. In tropical Asia the perfumed fruit of *Uvaria Burahol*, Bl., *U. dulcis*, Dun., and *U. heterophylla*, Bl., are eaten (Baillon), in Burma, the fruit of *U. grandiflora*, which has the taste and the appearance of the North American Papaw (Pickering), and in Ceylon that of *U. Zeylanica*, of a vinous taste, and resembling that of an apricot (Don). In Jamaica *U. alba* is said by Lunan to have a fruit eaten when roasted, and in Jamaica *U. dulcis* is grown in the public gardens as a fruit tree (Morris); *U. cordata* is also enumerated amongst the edible species (Masters).

Guatteria cerasoides, Dun., of Western Hindustan, has dark red, cherry size, astringent fruit, eaten by the natives; and the black, fleshy, smooth, acid-sweet berries of *G. sempervirens*, Dun., are also eaten (Don).

The *Unonias* have aromatic properties. *U. carminativa*, Arrud. affords in the capsules of its seeds a spice relished as a pepper in Brazil (Arruda); *U. discreta*, L. fil. of Surinam, *U. dumetorum*, Dun., of Cochin China, *U. esculenta*, Dun. of India about Madras, have fruits said to be edible and of good taste (Don); those of *U. Corinthi* are also classed as edible (Baillon), and those of *U. undulata*, Dun., are used as a condiment in Guinea.